

Work Order ID 154144

Tuesday, December 06, 2016 1:14:37 PM

154144

Page 1

Item ID: D2011-101

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Mirror 6"

Start Date: 11/25/2016 Start Qty: 12.00

12

Cust Item ID:

Required Date: 12/6/2016 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals:

Process Plan:

DAS

21

Date: DEC 07 2016

Tooling:

Date:

Run Start

NR1

QC:

9-89

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D2011

Rev G

100

0.00

100

Purchasing

PURCHASING

Memo

0.00

Purchasing

Issue P/O: 34586 Mirror P/N: 28663 supplier: B C
INDUSTRIAL Material release note required

12

DEC 09 2016

DAS

13

9-89

110

0.00

110

Packaging

Receive & Inspect for Damage & Mat'l Certs

Memo

0.04

Packaging

Ensure material certification is attached

Dx 8/16-12-16

120

0.00

120

QC

QC6- Inspect dimensions to drawing

Memo

0.00

Quality Control

(12) 16/12-22

DAS
9
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval																																																									
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER :			
Misidentified ☐	Past Due ☐																																																																

154144

Page 2

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 11/25/2016 **Start Qty:** 12.00 ***12***

Cust Item ID:

Required Date: 12/6/2016 **Req'd Qty:** 12.00 ***12***

Customer:

Reference:

Run Start *NR1*

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:**

Stop ***NR2***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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0.00

130

Small Fab

0.08

Small Fab

Small Fab

Memo

1- Wrap mirror with plastic wrap

2- Discard Hardware & Install new hardware loosely

3- Crimp stud as per Dwg D2011

0.00

140

QC5- Inspect part completeness to step on W/O

0.04

OC

Quality Control

Memo

4- Test assembly to 50lbs pull test after 24 hours

0.00

150

Identify as per dwg & Stock Location:

0.02

Packaging

Packaging

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Work Order ID 154144

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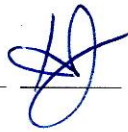
154144

Page 3

Item ID: D2011-101 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Mirror 6"
Start Date: 11/25/2016 Start Qty: 12.00 ***12*** Cust Item ID:
Required Date: 12/6/2016 Req'd Qty: 12.00 ***12*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC21- Final Inspection - Work Order Release	0.00							
160									
QC	Memo	0.20							
Quality Control									

17/01/23 

 JAN 20 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER :			

Picklist Print

Tuesday, December 06, 2016 1:14:37 PM

Page 1

Work Order ID: 154144

154144

Parent Item: D2011-101

D2011-101

Parent Item Name: Mirror 6"

Start Date: 11/25/2016

Required Date: 12/6/2016

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP: J04.09.15 Added Steps 5-7 KJ/JLM IPP:
K05.12.15 chg black sikaflex for white EC IPP L 08.11.06 new
drawing EC verify: DD IPP: M 08.12.19 Added step 3 KJ Verified
by: LL IPP rev N 10.01.13 added wrap per ncr09-118 EC verified by: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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NAS1149D0416J

Purchased

No

110

Each

4,003.000

1

12

NAS1149D0416.J

WASHER

**

17/01/09 DAS 36 9-89

Location

Loc Qty

Loc Code

GA

43

m131511

43

ST260a

2492

m131511

2492

ST264

1468

m131511

1468

12

CHM-10601

Purchased

No

130

Each

0.0000

1

12

CHM-10601

Mirror 6"

D2829

Manufactured

No

130

Each

21.0000

1

12

D2829

Threaded Stud

**

12 x Spdb-12lb.

17/01/09 DAS 36 9-89

Location

Loc Qty

Loc Code

GA

21

146644

21

9

151503 3

D3014-1

Manufactured

No

130

Each

114.0000

1

12

D3014-1

Lock Nut

**

17/01/09 DAS 36 9-89

Location

Loc Qty

Loc Code

ST015

114

122272

114

12

DQA: _____ Date: _____



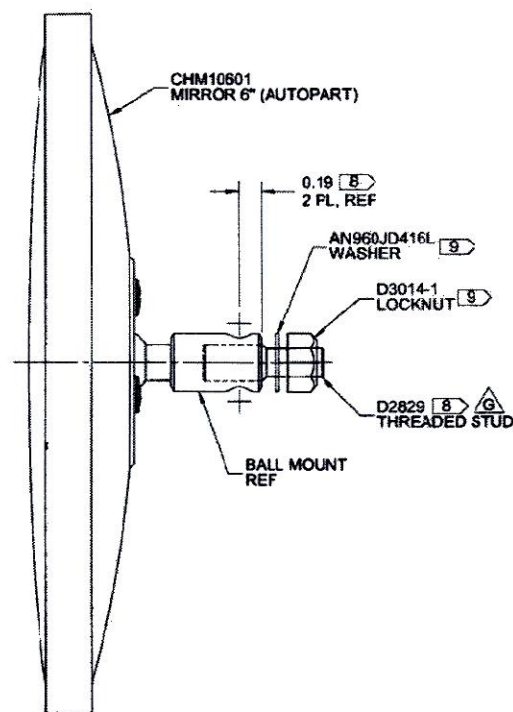
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval 	
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
						QC / QA Coordinator Approval			
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
OTHER : ☐									

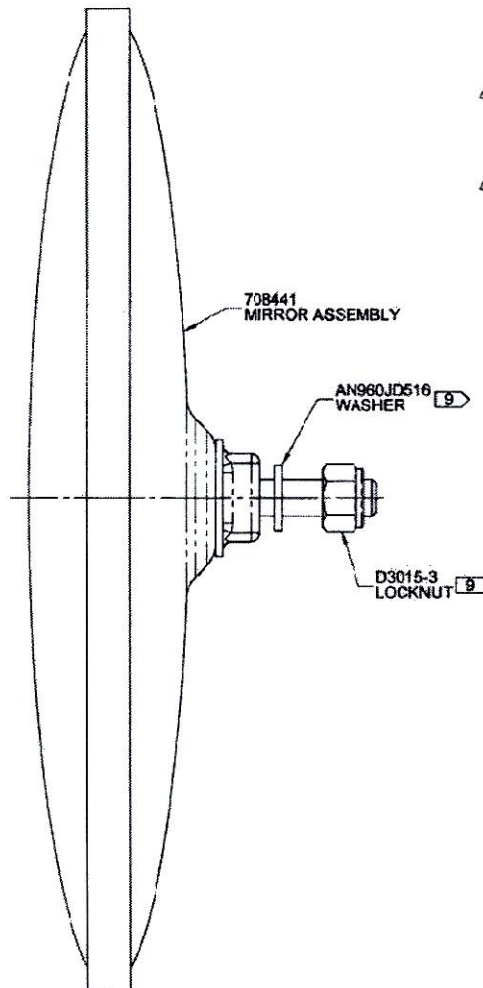
8 7 6 5 4 3 2 1



D2011-101 MIRROR ASSEMBLY 6"

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D2011-101 = 0.6 lbs APPROX. ; D2011-103 = 1.0 lbs APPROX.
- 8) D2829 INSTALLATION PROCEDURE:
 - APPLY LOCKTITE 262 TO $\phi 5/16$ END OF D2829
 - THREAD BY HAND INTO BALL MOUNT UNTIL ENTIRE $\phi 5/16$ END OF D2829 IS WITHIN BALL MOUNT
 - CRIMP BALL MOUNT ON TWO OPPOSING SIDES, 0.19 FROM END AS ILLUSTRATED USING TOOL DT8317
 - CRIMP TO DEPTH OF 0.040 $\pm$ 0.010 USING R0.125
- 9) INSTALL LOOSE



D2011-103 MIRROR ASSEMBLY 8"

ITEM	QTY -101	QTY -103	P/N	DESCRIPTION
1	X		D2011-101	MIRROR ASSEMBLY 6"
2		X	D2011-103	MIRROR ASSEMBLY 8"
3	1		D2829	THREADED STUD
4	1		D3014-1	LOCKNUT
5		1	D3015-3	LOCKNUT
6	1		CHM10801	MIRROR 6" (AUTOPART)
7		1	708441	MIRROR 8" (VEL VAC)
8	1		AN960JD416L	WASHER
9		1	AN960JD516	WASHER

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 154144 ML5/6-12-07

RELEASED
08-10-2008

G	REDRAWN IN SOLIDWORKS TO CURRENT STANDARD AND TRANSFERRED TO "B" SIZE FORMAT; MIRROR 6" (AUTOPART) AND CHM10801 WERE MIRROR 6" (GROTE) AND P/N 28043 (2N D3-1); ADDED D2829 (2N D3-1 AND 2N D3-1); REMOVED DRILLING NOTE, VIEW A-A AND SIKAFLEX APPLICATION NOTE. REASON: GROTE PRODUCT IS DISCONTINUED	MB	08-10-08
F	ADD HOLES FOR SEALANT ON -101	CP	04-09-10
E	NEW 8" MIRROR	CP	01-05-08
D	NEW 6" MIRROR, ADD NUT, REMOVED STUD	CP	01-04-23
C	REPLACE DOMINION AUTO MIRRORS WITH PHILLIPS, ADDED STUDS, REDRAWN	RF	99-06-01
B	SIKAFLEX 241 ADDED	JB	08-04-09
A	DWG NO. WAS DSP1011, ADDED -103	JB	90-06-15
-	NEW ISSUE	JB	90-03-31
REV.	DESCRIPTION	BY	DATE
DESIGN	JB		
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.10.06		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D2011 TITLE MIRROR ASSEMBLY REV. G SHEET 1 OF 1 SCALE NTS COPYRIGHT © 1980 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND NOT TO BE RELEASED OR DISCLOSED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.			



Purchase Order ID PO34586

Purchase Order Date 12/9/2016 9:21:48 AM
PO Print Date 12/9/2016

Page Number 1 of 1

Order From :

VC-BCI001

Ship To : DART AEROSPACE LTD

B C INDUSTRIAL
14 OLD FOREST
KIRKLAND, QUEBEC H9J 2Z8

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

DEC 09 2016

Contact Name

Vendor Phone 514-585-8907

Ship To Contact

Ship To Phone

Ship Via:

FedEx Economy collect

Ship Acct:

Buyer

Chantal Lavoie

Customer POID**Customer Tax #**

Terms

Net 30

Currency

CAD

FOB

FCA – (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
2	28663 AS PER DWG D2011 REV. G B154144	Mirror 6"	12/15/2016 Yes 12/15/2016	FN	12.00 Each	\$18.70	\$224.40
						Line Total:	\$224.40
3	71401-45	PROCUREMENT QUALITY CLAUSES	12/15/2016 No 12/15/2016		1.00	\$0.00	\$0.00
PROCUREMENT QUALITY CLAUSES A005 RIGHT OF ENTRY A016 PERSONNEL QUALIFICATION A025 CERTIFICATE OF CONFORMANCE A040 NOTIFICATION OF QUALITY ESCAPE A042 DART NOTIFICATION BY SUPPLIER A043 RETENTION OF QUALITY DOCUMENTS						Line Total:	\$0.00
						PO Total:	\$224.40

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Change Nbr: 1

Change Date: 12/9/2016

Dec 16 2016

Packing Slip

PS161216DA-2

Livrer a/Ship to:

Dart Aerospace Ltd
1270 Aberdeen
Hawksbury, Ont
K6A 1K7

Votre PO# 34586

Description	Livrer/Ship	B/O
1. Grote mirror 28663 ✓	12 ✓	0

Sd 12-16

BC Industrial.... 14 Old Forest....Kirkland, Quebec.. H9J2Z8
Phone 514-585-8907 bcpc1@videotron.ca

BC Industrial..... 14 Old Forest....Kirkland....Quebec....H9J-2Z8....Canada

Phone 514-585-8907

Email bcpc1@videotron.ca

Certificate of Compliance

Dec 16 2016

Dart Aerospace Ltd
1270 Aberdeen
Hawksbury, Ont
K6A 1K7

Att: Chantal Lavoie

This is to confirm that the parts delivered on our

PS161216DA-2

Grote mirror 28663

DAS
9
9-89

conforms to the specifications outlined on your purchase
order 34586

Thank you

Bryan Cameron

#TPS/GST-14264062

#TVQ/PST-1021696907

Terms 2%10 Net 30